(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 12 January 2006 (12.01,2006)

PCT

(10) International Publication Number $WO\ 2006/004304\ A1$

(51) International Patent Classification⁷: H04N 7/015

(21) International Application Number:

PCT/KR2005/000967

(22) International Filing Date: 1 April 2005 (01.04.2005)

(25) Filing Language:

Korea

(26) Publication Language:

English

(30) Priority Data:

10-2004-0022694 1 April 2004 (01.04.2004) KR 10-2004-0032174 7 May 2004 (07.05.2004) KR 10-2004-0065529 19 August 2004 (19.08.2004) KR

- (71) Applicant (for all designated States except US): ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejon 305-350 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LEE, Jae-Young [KR/KR]; #514-201, Jugong Apt., Jamsil 5-dong, Songpa-gu, Seoul 138-916 (KR). JI, Kum-Ran [KR/KR]; 167, Manyeon-ri, Hwasun-eup, Hwasun-gun, Jeollanam-do 519-806 (KR). KIM, Sung-Hoon [KR/KR]; #230-304, Galma Apt., Galma-dong, Seo-gu, Daejeon 302-170 (KR). KIM, Seung-Won [KR/KR]; #105-202, Gukhwadongsung Apt., Samcheon-dong, Seo-gu, Daejeon 302-782 (KR). LEE, Soo-In [KR/KR]; #106-606, Clover Apt., Dunsan-dong, Seo-gu, Daejeon 302-772 (KR). AHN,

Chieteuk [KR/KR]; #208-603, Expo Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-761 (KR).

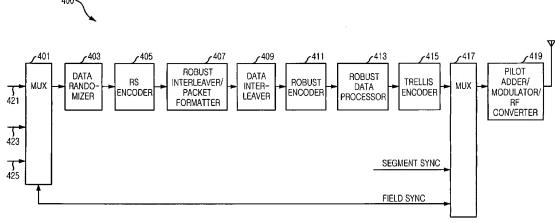
- (74) Agent: SHINSUNG PATENT FIRM; 2-3F, Line Bldg., 823-30, Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DUAL STREAM STRUCTURE DIGITAL TELEVISION TRANSMISSION AND RECEIVING METHOD USING HYBRID OF E-8VSSB, E-4VSB AND P2VSB



(57) Abstract: Provided are a Vestigial Side Band (VSB) Digital Television (DTV) transmitter and receiver based on the Advanced Television System Committee (ATSC) A/53, and a method thereof. The present invention provides 8-VSB DTV transmitter and receiver that can improve reception performance of the receiver by transmitting and receiving robust data mixed with P-2VSB, E-4 VSB, and/or E-8 VSB. The DTV transmitter includes an input means for receiving a digital video data stream including normal data and robust data; an encoding means for coding the digital video data stream into data symbols; and a transmitting means for modulating and transmitting an output signal of the encoding means, wherein the encoding means performs trellis coding on the robust data by mixing and using a plurality of methods.

